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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/627,584	07/25/2003	Steven A. Poling	900.186US1	2986

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EXAMINER

HERTZOG, ARDITH E

ART UNIT	PAPER NUMBER
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1754

DATE MAILED: 11/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/627,584

Applicant(s)

POLING ET AL.

Examiner

Ardith E. Hertzog

Art Unit

1754

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 7/25/2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☒ Claim(s) 1-35 are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Election/Restriction

1. Restriction to one of the following inventions is required under 35 U.S.C. § 121:

Group I. Claims 1-17, drawn to compounds comprising inorganic sulfur-containing compounds, classified in class 423, subclass 511+.

Group II. Claims 18-30, drawn to methods for producing a protonated chalcogenide or unprotonated crystalline sulfide, selenide or telluride, classified in class 423, subclasses 508+ and 511+.

Group III. Claims 31-35, drawn to methods for producing a chemically and thermally stable membrane material, and the material so produced, classified in class 429, subclass 33.

2. The inventions are distinct, each from the other because of the following reasons:

The inventions of **Group II** and **Group I** are related as process of making and product made. The inventions are distinct if **either or both** of the following can be shown: (1) that the process as claimed can be used to make other and materially different product, **or** (2) that the product as claimed can be made by another and materially different process (see MPEP § 806.05(f)). In the instant case, the process as claimed can be used to make other and materially different product—namely, compounds **other than Group I**—as disclosed by applicant in paragraph [0029] on page 8 (i.e., “new synthesis methods for producing... **known** chalcogenide compounds” (emphasis added), and/or “a new method of making **existing** compounds” (emphasis

added)), **as well as** in paragraph **[0092]** on page 27 (i.e., "it is likely **other new** chalcogenide-acids, **as well as other new** chalcogenide and hydrochalcogenide compounds can **also** be made (emphasis added)).

3. The inventions of **Group I** and **Group III** are related as mutually exclusive species in an intermediate-final product relationship. Distinctness is proven for claims in this relationship **if** the intermediate product is useful to make other than the final product (see MPEP § 806.04(b), third paragraph), **and** the species are patentably distinct (see MPEP § 806.04(h)). In the instant case, the intermediate product (i.e., the compounds of **Group I**) is deemed to be useful "in a variety of applications, as is known in the art, [including not only] fuel cell applications (i.e., the membranes of **Group III**), [but also] reformers, purifiers, sensors, and the like", as disclosed by applicant in paragraph **[0018]** on page 6, **and** the inventions are deemed patentably distinct, since there is nothing on this record to show them to be obvious variants. Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions anticipated by the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. § 103(a) of the other invention.

4. The inventions of **Group III** and **Group II** are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that: (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, **and** (2) the subcombination has utility by itself or in other

combinations (see MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed, because, as evinced by claim 31, **Group III** does not require the **specific precursors and/or products** of **Group II**. The subcombination has separate utility such as, by itself, i.e., in the claimed reaction methods/syntheses for producing a protonated chalcogenide or unprotonated crystalline sulfide, selenide or telluride.

5. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

6. **Furthermore, within the invention of Group I**, this application contains claims directed to the following patentably distinct species of the claimed invention:

Compounds comprising inorganic sulfur-containing compounds, **wherein the inorganic sulfur-containing compound is:**

- a) a hydrogen-modified thiogermanate compound (per claims 1-13); or
- b) a thiomolybdic acid compound (per claims 14-17).

7. Thus, **if the invention of Group I is elected, then applicant is required under 35 U.S.C. § 121 to elect a single disclosed species—i.e., species a) or b) as set forth *supra*—for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, no Group I claim is generic.**

8. **Similarly, within the invention of Group II**, this application contains claims directed to the following patentably distinct species of the claimed invention:

- a) methods for producing a ***protonated chalcogenide*** comprising reacting liquid H_2S , H_2Se or H_2Te with a **precursor selected from the group consisting of *chalcogenides***;
 - b) methods for producing a ***protonated chalcogenide*** comprising reacting liquid H_2S , H_2Se or H_2Te with a **precursor selected from the group consisting of *halides***;
 - c) methods for producing an ***unprotonated crystalline sulfide, selenide or telluride*** comprising reacting liquid H_2S , H_2Se or H_2Te with a **precursor selected from the group consisting of *chalcogenides***; or
 - d) methods for producing an ***unprotonated crystalline sulfide, selenide or telluride*** comprising reacting liquid H_2S , H_2Se or H_2Te with a **precursor selected from the group consisting of *halides***.
9. Thus, *if* the invention of Group II is elected, *then* applicant is required under 35 U.S.C. § 121 to elect a single disclosed species—i.e., species a), b), c) or d) as set forth *supra*—for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claims 18-24 and 27-30 of Group II are generic.
10. With respect to paragraphs 6. – 9. above:
- a. Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered

nonresponsive unless accompanied by an election.

b. Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR § 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species (see MPEP § 809.02(a)).

c. Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. § 103(a) of the other invention.


11. Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (see 37 CFR § 1.143).

12. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR § 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR § 1.48(b) and by the fee required under 37 CFR § 1.17(i).

Conclusion

13. Any inquiry concerning this communication should be directed to Ardith E. Hertzog at telephone number (571) 272-1347. The examiner can normally be reached on Monday through Friday (from about 8:00 a.m. - 4:00 p.m.).
14. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stanley S. Silverman, can be reached at (571) 272-1358. The fax phone number for the organization where this application is assigned is 703-872-9306.
15. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. For any questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


AEH
November 16, 2004


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